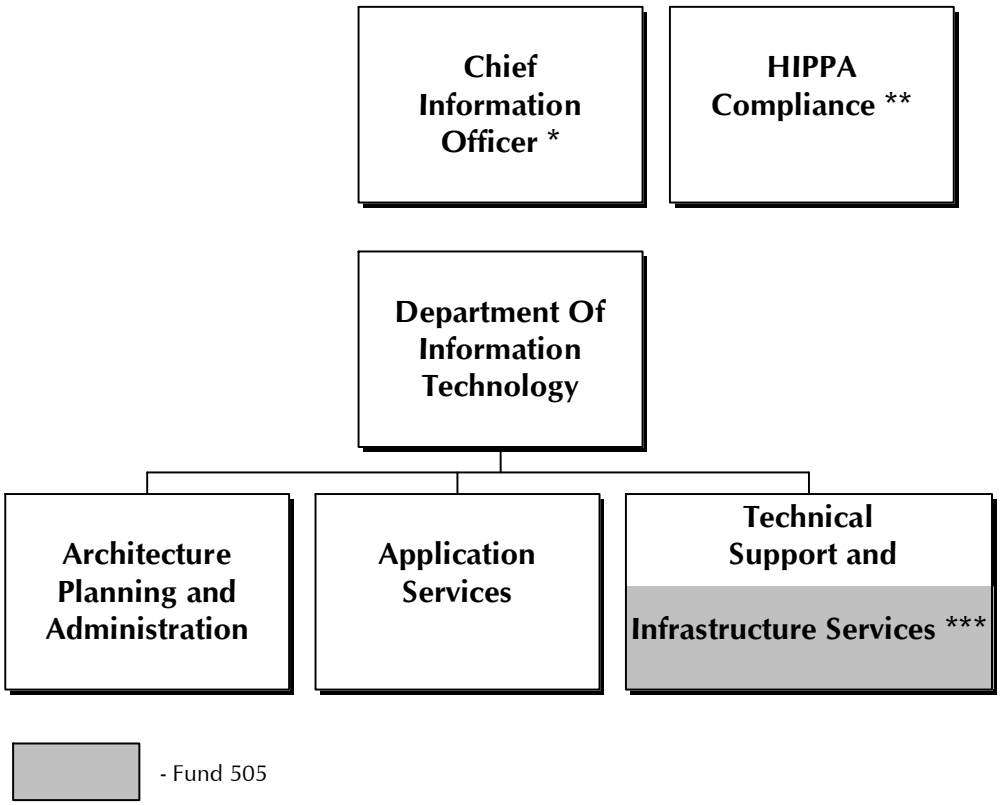
Fund 505
Technology Infrastructure Services



* The Chief Information Officer has responsibility for strategic direction and oversight of this agency; and, for budget purposes, that position and associated funding are also reflected within the Department of Information Technology within the General Fund.

** As mandated by federal regulation, Fairfax County has a HIPAA Compliance function, which reports directly to the CIO.

*** All staffing and operating support for Infrastructure Services is found in Volume II, Fund 505.

Mission

To provide a sound technology architecture required to support County business processes and systems that strengthen the public service commitment of Fairfax County.

Focus

The Department of Information Technology (DIT) coordinates all aspects of information technology for the County and plays an enabling role in advancing the strategic value of technology to transform work processes and provide quality services to customers. Funding for DIT activities is included in the General Fund and in two Funds that DIT manages. Fund 505, Technology Infrastructure Services, includes technology activities performed for County agencies, such as the County computer center (Data Center) operations, enterprise data communications network, Radio Center services, and E-911 communications. Fund 104, Information Technology, funds major information technology projects including those with countywide strategic importance, such as infrastructure and application system modernization initiatives.

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Support for Fund 505 is derived from its customers (County agencies and other entities such as the Fairfax County Public Schools) and a General Fund Transfer, which helps support the new Public Service Radio System; expenditures are primarily driven by customer requests for information technology services (i.e., public safety radio system maintenance, enhanced telecommunications services, use of the data center infrastructure utility-like system for data processing and data storage requirements, and required software maintenance and licenses, etc.).

THINKING STRATEGICALLY

Strategic challenges for the Department include:

- Maintaining communication inter-operability within the County and with other government entities; and
- Providing adequate storage, backup and security for County data.

Technology Infrastructure Services provides intra-governmental services including the operation and maintenance of the County computer center and server platforms 24 hours a day, seven days per week; safeguarding County software license obligations, data repositories and information assets; maintaining the County data and radio communication networks; and providing integrated communication service to all County agencies and other government customers. The County's enterprise network provides bandwidth securely connecting over 200 facilities to the vast array of business applications for agencies use. In FY 2005, a surcharge of five percent will be added to Infrastructure Charges to rebuild reserves for the future replacement and upgrade of enterprise servers (mainframe and other platforms) computer equipment. The surcharge was reduced in prior years because a relatively healthy reserve was developing due to reduced equipment requirements. However in FY 2005, based on the age of the equipment and the purchase of a new mainframe server, the surcharge is once again at 5 percent.

DIT also manages a PC replacement fund in Fund 505, ensuring funding is available for scheduled desktop device technology refresh to remain consistent with advancements in technology required for services. For each PC replaced, an amount of $600 had been collected per year over a period of four years, based on the estimated life cycle and future replacement cost. However, in FY 2004, based on review of the PC replacement program, efficiency opportunities, and changes in the technology market it was recommended that the annual amount collected per PC be reduced to $400 pending a more thorough study. After a comprehensive review of the funding and operation of this program, the program will continue on a 4 year replacement cycle, restructure the end-user training, further review various service options for deploying equipment, increase the number of PC's in the program to account for additional purchases over the last few years and consider the types of PC's that are provided for replacement to take advantage of all available technology. In addition, the annual amount collected per PC will stay at $400/year in FY 2005 however move to $500/year in FY 2006 based on an analysis of the future year cash flow required to support hardware and software components of the program. Industry experts that assisted in the review continue to stress the validity and essential nature of the County's refresh cycle at the desktop.

DIT is also responsible for coordinating radio repair and engineering support to County agencies and the Fairfax County Public School system. In FY 2004, DIT will maintain 217 base stations, and 8,466 portable radios and mobile units utilizing both County employees and contracts with outside vendors. Operational maintenance of the radio network is of primary importance to the County public safety agencies, public works agencies, Fairfax County Public Schools (FCPS), and other County agencies. With the deployment of the new public safety and the soon-to-be operational new public service radio systems, in FY 2005, the operations of the Radio Center are planned to be modified for private sector provided equipment maintenance support for improved efficiencies. The current staffing level of 12/12.0 SYE is expected to be reduced to 5/5.0 SYE and will provide contractor oversight and supervision for the new contracts as well as interoperability management to ensure 24 hours a day/7 days a week communication with other jurisdictions. To support the operational and maintenance requirements of the systems, costs will be recovered by user entities such as the FCPS and Fairfax County Water Authority, and a General Fund Transfer is included to cover the General Fund and General Fund Supported agencies portion of the costs.

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New Initiatives and Recent Accomplishments in Support of the Fairfax County Vision

Maintaining Safe and Caring Communities	Recent Success	FY 2005 Initiative	Cost Center
Implement voice and data communications infrastructure to support the Alternate Emergency Operations Center (AEOC) to meet the needs of the County's Emergency Response Teams.		☑	Infrastructure Services
Connecting People and Places	**Recent Success**	**FY 2005 Initiative**	**Cost Center**
Study, develop and implement the Wide Area Network Enhancement Project to: ♦ increase the capacity, efficiency and effectiveness of the County's Enterprise Network during Phase I which was recently completed; and ♦ increase security through Network Address Translation (NAT), which will "hide" internal IP addresses from display to outside sources, and to employ Open Standards during the upcoming Phase II.	☑	☑	Infrastructure Services
Activate the equipment required for 'lighting up' the County's fiber optic Institutional Network (I-Net), which will, in time, replace the carrier provided wide area network and provide the transport layer for the County and Schools voice, data and video traffic.		☑	Infrastructure Services
Implemented several wireless initiatives to include point-to-point wireless networks as backup circuits for both the Government Center and Massey Campuses; in-building wireless connections for the Conference Center and Board Auditorium; and a Police initiative for "pass-by" wireless data transmissions.		☑	Infrastructure Services
Evaluate support for the public safety and public service radio systems, ensuring network monitoring, system performance, database management, interjurisdictional compatibility coordination, ID tracking, radio reprogramming, and redundancy testing.		☑	Infrastructure Services
Maintaining Healthy Economies	**Recent Success**	**FY 2005 Initiative**	**Cost Center**
Expansion of remote access technology through use of Citrix for providing secure, less bandwidth intensive, access to County systems for the County's workforce at small remote sites, and teleworkers.	☑	☑	Infrastructure Services

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Creating a Culture of Engagement	Recent Success	FY 2005 Initiative	Cost Center
Integrate new wireless initiatives with e-government technologies to improve internal and public access to information via cell phones, blackberries, PC tablets, etc.		☑	Infrastructure Services
Corporate Stewardship	**Recent Success**	**FY 2005 Initiative**	**Cost Center**
Continue the implementation of a new enterprise-wide security architecture that: ♦ facilitated an improved multi-pronged approach to providing internal government, business partners and public access to appropriate electronic transactions and services, ♦ provided for advanced authentication of information to comply with security and privacy concerns supporting e-government programs, and ♦ provided improved monitoring and intrusion detection capability.	☑	☑	Infrastructure Services
Continue to implement a multi-phase Network Security Perimeter that uses a multiple firewall strategy to safeguard corporate data, thereby addressing security and privacy concerns and fulfilling the requirements of the Health Insurance Portability and Accountability Act (HIPAA).	☑	☑	Infrastructure Services
Completed the second phase of the redesign of the County's data network to improve redundancy, capacity, security, and flexibility to meet the needs of new applications.	☑		Infrastructure Services
Continue server consolidation to reduce server footprint, operating and software licensing costs, and balance server resources across applications providing increased effectiveness and efficiency of the management and utility of the County's server farm.	☑	☑	Infrastructure Services
Implemented a full network monitoring and management upgrade for applications and infrastructure that resulted in more timely and more complete systemic information on the status of network connected systems and provided enhanced capabilities to respond to system problems before they affect system users. In accordance with the County's Business Continuity Requirements, the upgrade also provides greater systems redundancy.	☑		Infrastructure Services

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Corporate Stewardship	Recent Success	FY 2005 Initiative	Cost Center
Continue to purchase, configure, and install desktop and laptop computers under the PC Replacement Program, thereby replacing obsolete equipment. This program currently covers over 9,000 computers, each of which is replaced at the end of a four-year cycle.	☑	☑	Infrastructure Services
Continue to Implement 'Webmethods', a middleware product that creates a seamless process between disparate applications.	☑	☑	Infrastructure Services
Added a secondary Internet Service Provider (ISP) connection to provide back-up, accommodate peak time load, and provide a level of redundancy which allows business continuity during unforeseen commercial ISP outages.	☑		Infrastructure Services
Encourage on-going improvements to the County's critical enterprise technology operations center (ETOC) as part of a multi-year facility modernization initiative to ensure that the ETOC remains a highly reliable and secure resource supporting the technology systems critical to County business operations, thus improving operational effectiveness within an optimized failsafe environment.	☑		Infrastructure Services

Budget and Staff Resources

Agency Summary

Category	FY 2003 Actual	FY 2004 Adopted Budget Plan	FY 2004 Revised Budget Plan	FY 2005 Advertised Budget Plan	FY 2005 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	70/ 70	69/ 69	69/ 69	62/ 62	69/ 69
Expenditures:					
Personnel Services	$4,892,917	$5,320,526	$5,320,526	$5,319,991	$5,510,490
Operating Expenses	14,653,258	16,250,069	16,649,647	18,792,564	18,121,305
Capital Equipment	1,489,040	1,079,098	1,524,858	1,437,280	1,437,280
Total Expenditures	**$21,035,215**	**$22,649,693**	**$23,495,031**	**$25,549,835**	**$25,069,075**

Position Summary

	Network/Data Communication Services		Data Center Services		Radio Center Services
1	Info. Tech. Program Director I	1	Info. Tech. Program Director II	1	Network/Telecom Analyst IV
1	Info. Tech. Program Manager I	2	Info. Tech. Program Managers II	2	Network/Telecom Analysts III
2	Network/Telecom Analysts IV	4	Systems Programmers III	1	Communications Engineer
10	Network/Telecom Analysts III	5	Systems Programmers II	3	Communications Technicians
4	Network/Telecom Analysts II	3	Systems Programmers I	1	Electronic Equipment Supervisor
1	Network/Telecom Analyst I	2	Programmer Analysts III	2	Electronic Equipment Technicians II
		1	Programmer Analyst II	1	Assistant Buyer
		1	Programmer Analyst I	1	Administrative Assistant III
		8	IT Technicians III		
		9	IT Technicians II		
		2	IT Technicians I		

TOTAL POSITIONS
69 Positions / 69.0 Staff Years

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FY 2005 Funding Adjustments

The following funding adjustments from the FY 2004 Revised Budget Plan are necessary to support the FY 2005 program:

- **Employee Compensation** **$212,638**
  An increase of $212,638 associated with salary adjustments necessary to support the County's compensation program and existing staff.

- **Data Center** **$1,492,424**
  An increase of $1,492,424 to purchase software license renewals; support telecommunication increases; expand the storage available for mainframe data; augment security measures for daily application operations and incident investigation required to further protect the County from unauthorized entry into County systems, attacks, viruses, data destruction and other cyber threats; support Year 4 of a 5 year Wide Area Network renewal plan; and replace the mainframe server, which will soon be unsupported by the vendor.

- **PC Replacement Program** **$714,320**
  An increase of $714,320 in the PC Replacement Program to purchase PC's scheduled to be replaced in FY 2005, according to the four year replacement cycle.

- **Radio Center** **$480,760**
  A net increase of $480,760 associated with the redesign of the Radio Center, supporting the operation of the Public Safety and Public Service radio systems. The redesign includes a net reduction of 7/7.0 SYE positions. The program, in its new capacity, will support system wide costs including telecommunications and network maintenance from this Fund.

- **Carryover Adjustments** **($845,338)**
  A decrease of $845,338 as a result of one time funding at the *FY 2003 Carryover Review*.

Board of Supervisors' Adjustments

The following funding adjustments reflect all changes to the FY 2005 Advertised Budget Plan, as approved by the Board of Supervisors on April 26, 2004:

- **Delay of Radio Center Privatization** **($480,760)**
  As a result of delays in the construction of the infrastructure of the public service and public safety radio networks, originally scheduled for operation in early summer 2004, the Radio Center will operate business as usual during FY 2005. This requires a reduction of $480,760 in expenditures and transfer from the General Fund, and the restoration of 7/7.0 SYE positions.

Changes to FY 2004 Adopted Budget Plan

The following funding adjustments reflect all approved changes in the FY 2004 Revised Budget Plan since passage of the FY 2004 Adopted Budget Plan. Included are all adjustments made as part of the FY 2003 Carryover Review and all other approved changes through December 31, 2003:

- **Carryover Adjustments** **$845,338**
  As part of the *FY 2003 Carryover Review*, the Board of Supervisors approved encumbered carryover of $845,338.

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The following funding adjustments reflect all approved changes to the FY 2004 Revised Budget Plan from January 1, 2004 through April 19, 2004. Included are all adjustments made as part of the FY 2004 Third Quarter Review:

- The Board of Supervisors made no adjustments to this fund.

Key Performance Measures

Objectives

- To maintain the number of business days to fulfill Telecommunications service requests for a) non-critical requests at a standard of 4 days; b) critical requests at a standard of next business day; and c) emergency requests at a standard of the same day.

- To increase the percentage of LAN/PC workstation calls to Technical Support Services that are closed within 72 hours from 85 to 88 percent.

- To improve the resolution rate for the average first-call problem for the Technical Support Center (TSC), DIT Help Desk by three percentage points, from 85 percent to 88 percent.

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2001 Actual	FY 2002 Actual	FY 2003 Estimate/Actual	FY 2004	FY 2005
Output:					
Responses to calls for repairs on voice devices	5,335	5,356	6,785 / 4,204	4,750	4,900
Moves, adds or changes (voice and data)	8,265	8,435	7,650 / 2,271	2,400	2,466
Calls resolved	17,503	21,769	19,500 / 18,223	25,000	26,250
Help desk calls with data questions	2,265	3,136	1,625 / 2,682	2,375	2,400
Customer requests for service fulfilled by Technical Support Center (TSC) (1)	38,869	54,259	45,000 / 54,058	76,000	79,800
Efficiency:					
Cost per call	$120	$125	$110 / $110	$105	$105
Average number of hours annually spent per staff member to resolve calls	1,407	1,407	1,407 / 844	992	1,042
Customer requests for service per TSC staff member	3,886	4,933	4,091 / 4,505	6,333	6,650
Service Quality:					
Customer satisfaction with telecommunication services	84.0%	88.0%	95.0% / 95.0%	95.0%	95.0%
Percent of customers reporting satisfaction with resolution of LAN/PC workstation calls (2)	91%	80%	75% / 77%	80%	80%
Percent satisfaction of County employees with support from Technical Support Center	84%	88%	90% / 86%	88%	89%

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Indicator	Prior Year Actuals FY 2001 Actual	Prior Year Actuals FY 2002 Actual	Prior Year Actuals FY 2003 Estimate/Actual	Current Estimate FY 2004	Future Estimate FY 2005
Outcome:					
Business days to fulfill service requests from initial call to completion of request for non-critical requests	14	4	4 / 3	4	4
Business days to fulfill service requests from initial call to completion of request for critical calls	6	2	2 / 2	2	2
Business days to fulfill Telecommunications service requests for emergencies	3	3	1 / 2	1	1
Percent of calls closed within 72 hours	57%	68%	70% / 80%	85%	88%
Percent of first-contact problem resolution	60%	89%	91% / 77%	85%	88%

(1) The FY 2004 merger of the Human Services IT help desk with DIT is expected to drive the increase in customer requests for TSC services.

(2) A decrease in customer satisfaction with the resolution of LAN/PC workstation calls in FY 2003 was due to a scheduled Architecture Refresh program which resulted in increased support requirements.

Performance Measurement Results

This fund provides critical infrastructure services including integrated communication service to all County agencies and other government customers, response to service requested through the help desk, and maintaining the County data communication networks. The performance measures for this fund focus on delivering and securing a stable IT environment.

Overall, DIT met or substantially met the majority of the performance objectives. Many factors contributed to this performance, including more calls seeking assistance with complex technology and new agency-specific applications that the Technical Support Center has not been trained to help with; increased use of remote access for telework; older generation PCs on the network; and too many customized desk-top configurations in agencies. Also impacting the performance measures was a change in the methodology for how telecommunications service requests are made so that calls requiring multiple actions are reported as one request versus a separate request for each action taken. Since July 2003, the support provided by DIT and Human Services Information Technology help desks have been combined, which will generate additional total calls to the help desk.

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FUND STATEMENT

Fund Type G50, Internal Service Funds **Fund 505, Technology Infrastructure Services**

	FY 2003 Actual	FY 2004 Adopted Budget Plan	FY 2004 Revised Budget Plan	FY 2005 Advertised Budget Plan	FY 2005 Adopted Budget Plan
Beginning Balance	**$11,265,982**	**$8,892,614**	**$9,944,196**	**$6,248,925**	**$6,248,925**
Revenue:					
Radio Services Charges	$572,106	$842,799	$842,799	$670,772	$670,772
PC Replacement Charges	5,481,400	3,672,266	3,672,266	3,641,200	3,641,200
DIT Infrastructure Charges					
County Agencies and Funds	12,233,440	13,543,515	13,543,515	14,883,941	14,883,941
Fairfax County Public Schools	1,206,758	1,562,586	1,562,586	1,810,600	1,810,600
Outside Customers	219,725	178,594	178,594	8,771	8,771
Subtotal DIT Infrastructure Charges	$13,659,923	$15,284,695	$15,284,695	$16,703,312	$16,703,312
Total Revenue	$19,713,429	$19,799,760	$19,799,760	$21,015,284	$21,015,284
Transfer In:					
General Fund (001)[1]	$0	$0	$0	$944,600	$463,840
Total Transfer In	$0	$0	$0	$944,600	$463,840
Total Available	**$30,979,411**	**$28,692,374**	**$29,743,956**	**$28,208,809**	**$27,728,049**
Expenditures:					
Personnel Services	$4,489,722	$4,838,844	$4,838,844	$4,827,134	$5,017,633
Operating Expenses	10,056,511	11,016,201	11,230,595	13,032,831	12,361,572
Capital Equipment	436,944	675,098	422,621	250,000	250,000
Computer Equipment Replacement Expenditures	5,225,735	5,715,550	6,115,550	6,829,870	6,829,870
Capacity Upgrade to Mainframe Computer	826,303	404,000	887,421	610,000	610,000
Total Expenditures	$21,035,215	$22,649,693	$23,495,031	$25,549,835	$25,069,075
Total Disbursements	**$21,035,215**	**$22,649,693**	**$23,495,031**	**$25,549,835**	**$25,069,075**
Ending Balance [2, 3]	**$9,944,196**	**$6,042,681**	**$6,248,925**	**$2,658,974**	**$2,658,974**
Infrastructure Replacement Reserve (CERF)[4]	$1,730,900	$196,763	$478,913	$77,632	$77,632
PC Replacement Reserve[5]	8,213,296	5,845,918	5,770,012	2,581,342	2,581,342
Unreserved Balance	**$0**	**$0**	**$0**	**$0**	**$0**

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[1] A General Fund Transfer will support the system wide charges of the new Public Safety and Public Service radio program for General Fund and General Fund Supported agencies.

[2] In order to account for revenues and expenditures in the proper fiscal year, an audit adjustment in the amount of $265,113 has been reflected as an increase to FY 2003 expenditures to reflect accruals in the correct fiscal period. The audit adjustment has been included in the FY 2003 Comprehensive Annual Financial Report (CAFR). Details of the FY 2003 audit adjustments were included in the FY 2004 Third Quarter Package.

[3] The fluctuation in ending balance is primarily due to the operation of the PC Replacement and Computer Equipment Reserve Programs. The programs collect funding each year, hold it in reserve until needed, and then expend the funds for replacement equipment. The time period for this action varies based on the needs of the programs.

[4] A surcharge of five percent is applied to Infrastructure Charges to build long-term reserves for scheduled replacement of mainframe computer and network assets. The funds are held in this Computer Equipment Replacement Fund (CERF).

[5] The balance in the PC Replacement Reserve fluctuates annually based on scheduled PC replacements which are on a four-year replacement cycle.